

CLAIMS:

1. A method for visualizing a sequence of volume images, which method comprises the steps of:
 - a) determining the volume values of a first volume image which are relevant for the visualization from the volume values of said volume image,
 - 5 b) storing the voxels with which these volume values are associated,
 - c) deriving a two-dimensional image from the volume image,
 - d) determining the volume values of a second volume image which are relevant for the visualization from those of its volume values which are associated with stored voxels or with voxels neighboring said stored voxels,
 - 10 e) storing the voxels with which these volume values are associated,
 - f) deriving a two-dimensional image from the volume image,
 - g) repeating the steps d) to f) for any further volume images.
2. A method as claimed in claim 1, in which the neighboring voxels are defined
15 by a motion model of the object motion.
3. A method as claimed in claim 1, in which all voxels from surrounding regions around stored voxels are defined as neighboring voxels.
- 20 4. A method as claimed in claim 1, in which the shape and/or the magnitude of the surrounding regions can be adjusted.
5. A method as claimed in claim 3, in which a surrounding region contains all voxels which are situated no further than a given geometrical distance from a stored voxel.
- 25 6. A method as claimed in claim 1, in which the voxels of a volume image are combined in blocks for storage, a block being stored when the volume value of at least one voxel in a block is relevant for the visualization, the visualization of a second volume image

being derived from those of its volume values which are associated with voxels in stored blocks or in blocks neighboring such stored blocks.

7. An image processing unit for visualizing a sequence of volume images, which
5 unit comprises
- a) a data input for volume images,
 - b) a memory for storing voxels,
 - c) a data processing unit for determining the volume values of a volume image which
are relevant for the visualization,
 - 10 d) a visualization unit for carrying out visualization methods,
 - e) a control unit for controlling said components in such a manner that a method as
disclosed in claim 1 is carried out, which method comprises the steps of:
 - e1) determining the volume values of a first volume image which are relevant for the
visualization from the volume values thereof,
 - 15 e2) storing the voxels with which these volume values are associated,
 - e3) deriving a two-dimensional image from the volume image,
 - e4) determining the volume values of a second volume image which are relevant for the
visualization from those of its volume values which are associated with stored voxels
or with voxels neighboring said stored voxels,
 - 20 e5) storing the voxels with which these volume values are associated,
 - e6) deriving a two-dimensional image from the volume image,
 - e7) repeating the steps e4) to e6) for any further volume images.
8. An apparatus as claimed in claim 7, comprising an acquisition unit for the
25 acquisition of the volume images.
9. An ultrasound apparatus as claimed in claim 8, comprising an acquisition unit
in the form of a sonography applicator.
- 30 10. A CT apparatus as claimed in claim 8, comprising an acquisition unit in the
form of an X-ray source and an X-ray detector unit.
11. A computer program or computer program product which enables a
programmable data processing unit to carry out a method as claimed in claim 1.